

## Tennessee Pollution Prevention Partnership Success Story



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### Using Recycled Water to Clean Floors

#### The Member

Bridgestone/Firestone North American Tire, LLC, (BFNT) Warren County Plant began manufacturing steel-belted radial tires for truck and bus applications in 1990. The plant employs approximately 1000 team members involved in producing thousands of these tires each day. BFNT company-wide has been dedicated to environmental excellence and continuous improvement as demonstrated by all of our North American tire plants achieving ISO 14001 certification by the year 2000. BFNT Warren is also a Charter Member of the EPA National Environmental Performance Track. We continue to look for opportunities to eliminate and reduce waste, prevent pollution, and conserve natural resources.



#### The Story

The manufacture of tires involves mixing raw materials into rubber compounds; cutting and forming the different compounds into several components, such as the tread, belts, innerliner, sidewalls, and beads; assembling these components as a “green” or uncured tire; and then curing the tire under heat and pressure. The rubber mixing process uses large amounts of rubber, carbon black, and other additives to make uncured rubber that is used to make the tire components. The carbon black and uncured rubber present challenges for our janitorial service in keeping our floors cleaned. Uncured rubber is very sticky and must be scraped off the floors unless it is removed quickly. Carbon black is a fine black dust-like material that is difficult to remove from most surfaces. BFNT

The Warren County plant is proud of its reputation of being one of the cleanest tire plants. Those who tour the plant always remark about the cleanliness of the facility. Large propane-powered floor scrubbing vehicles travel throughout the plant keeping the floors clean. Because of the nature of the resultant wastewater, we cannot discharge the floor scrubber wastewater into the sanitary sewer. Instead, it was collected and transported to a treatment facility in Chattanooga, TN for treatment and disposal. This presented BFNT Warren County with a challenge to reuse and recycle this wastewater in-house.

#### The Success

BFNT Warren County worked with Alley & Associates, Inc. to design and install a wastewater treatment system to cleanup the wastewater for reuse in the floor scrubbers. We also consulted another BFNT plant that already had an onsite wastewater treatment system. The treatment system removes the solids, but leaves the soap in the water. This allows the water to be reused up to 3 times before the water becomes too soapy and leaves residue on the floors. We have been able to reduce our soap usage from about 200 gallons to 100 gallons of soap every month further cutting costs. The wastewater treatment/recycle system was installed in April of 2001 and we met our target of recycling 50% of the scrubber water in 2002.

We recently hosted a BFNT Plant Manager Conference here at BFNT Warren County during which our status as one of the cleanest tire plants and the success of using recycled water in our floor cleaners were reconfirmed.

#### The Pollution Prevented

As of July 2002, we have recycled 90,430 gallons of water saving us \$23,512 in water treatment costs. We continue to modify and adjust the treatment/recycle system to obtain the highest quality recycled water in our floor scrubbers and optimize the soap usage.